

THE EFFECTS OF INDIVIDUALS' ATHLETIC PARTICIPATION AND TRAIT ANXIETY LEVELS ON AGGRESSIVE BEHAVIORS OUTSIDE SPORT

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SUMMARY

The purpose of this study is to investigate the effects of individuals' athletic participation and trait anxiety levels on aggressive behaviors outside sport. A total of 141 soccer players (aged 21.7 ± 4.3) and 141 non-athletes (aged 21.7 ± 1.7) participated in this study. An aggression inventory with a 30-item self-report measure with three subscales of 10 items each was used. The three subscales include hostile aggression, passive aggression and assertiveness. Using a 7-point Likert scale, respondents indicated the degree (from not at all to very much so) to which they engaged in the above mentioned dimensions. Trait anxiety was measured using the Turkish version of Spielberger and colleagues' Trait Anxiety Inventory. Statements presented on the questionnaire were followed by a response format arranged on a 4-point scale, with anchors ranging from not at all (1) to very much so (4). Data were analyzed with a 2 (athletic participation) x 3 (trait anxiety) ANOVA to test for the independent and interactive effects of athletic participation and anxiety level on aggression dimensions. Univariate F-tests revealed a main effect of athletic participation and anxiety level for all aggression dimensions. The results indicated that the overall model was statistically significant (Hostile aggression: $F_{(5, 276)} = 6.87, p < 0.001$; Passive aggression: $F_{(5, 276)} = 9.11, p < 0.001$ and Assertiveness: $F_{(5, 276)} = 13.2, p < 0.001$). The variable athletic participation was also statistically significant for all aggression dimensions (Hostile aggression: $F_{(1, 276)} = 28.7, p < 0.001$; Passive aggression: $F_{(1, 276)} = 41.3, p < 0.001$ and Assertiveness: $F_{(1, 276)} = 59.6, p < 0.001$). The interactions between athletic participation and anxiety levels were also statistically

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significant (Hostile aggression: $F_{(2, 276)} = 2.99, p < 0.05$; Passive aggression: $F_{(2, 276)} = 5.44, p < 0.005$ and Assertiveness: $F_{(2, 276)} = 8.38, p < 0.001$). These findings are consistent with previous research on aggressive tendencies.

Key words: Aggression, trait anxiety, athletic participation

ÖZET

BİREYLERİN SPOR DİŐI KATILIM VE KAYGI DÜZEYLERİNİN SPOR DİŐI SALDIRGAN DAVRANIŐLARI ÜZERİNDEKİ ETKİLERİ

Bu çalışmanın amacı, bireylerin sportif katılım ve sürekli kaygı düzeylerinin spor dışı saldırgan davranışları üzerindeki etkilerini incelemektir. Çalışmaya 141 futbolcu (yaş 21.7 ± 4.3) ve 141 spor yapmayan (yaş 21.7 ± 1.7) birey olmak üzere toplam 282 kişi katıldı. Sporcuların saldırganlık düzeyleri, Kiper'in saldırganlık envanteri kullanılarak değerlendirildi. Bu envanter 30 maddeden oluşmakta ve üç alt ölçeği içermektedir. Yıkıcı saldırganlık, atılganlık, edilgen saldırganlık. Çalışmada katılımcıların sürekli kaygı düzeyleri ise, Türkçe uyarlaması Öner ve Le Compte tarafından gerçekleştirilmiş olan "Sürekli Kaygı Envanteri" kullanılarak belirlendi. Veriler, 2 (sportif katılım) x 3 (sürekli kaygı düzeyi) faktörlü ANOVA ile analiz edildi. F testi, tüm saldırganlık boyutları için kaygı düzeyi ve sportif katılımın temel etkisini ortaya koydu. Sonuçlar, tüm modellerin istatistiksel olarak anlamlı olduğunu gösterdi (Yıkıcı saldırganlık: $F_{(5, 276)} = 6.87, p < 0.001$; Edilgen saldırganlık: $F_{(5, 276)} = 9.11, p < 0.001$ ve Atılganlık: $F_{(5, 276)} = 13.2, p < 0.001$). Ayrıca sportif katılım değişkeni tüm saldırganlık boyutları için istatistiksel olarak anlamlıdır (Yıkıcı saldırganlık: $F_{(1, 276)} = 28.7, p < 0.001$; Edilgen saldırganlık: $F_{(1, 276)} = 41.3, p < 0.001$ ve Atılganlık: $F_{(1, 276)} = 59.6, p < 0.001$). Ayrıca, sportif katılım ve kaygı düzeyleri arasındaki etkileşim istatistiksel olarak anlamlıdır (Yıkıcı saldırganlık: $F_{(2, 276)} = 2.99, p < 0.05$; Edilgen saldırganlık: $F_{(2, 276)} = 5.44, p < 0.005$ ve Atılganlık: $F_{(2, 276)} = 8.38, p < 0.001$). Bu bulgular saldırganlık eğilimleri ile ilgili yapılmış önceki araştırmalarla tutarlıdır.

Anahtar Sözcükler: Saldırganlık, sürekli kaygı, sportif katılım

INTRODUCTION

Aggression has always been part of the sport domain. Aggressive behaviors in sport, both on and off the field are perceived as a social problem. There is recent interest in understanding and explaining aggressive tendencies in sport settings. Aggression is classically defined as a behavior with the intent to injure someone, physically or psychologically. Baron and

Richardson (2) define aggression as "any form of behavior directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment". Bredemeier (3) defined aggressive behavior in sport as "The intentional initiation of violent and or injurious behavior". 'Violent' means any physical, verbal or nonverbal offense, while 'injurious behaviors' stand for any harmful intentions or actions. The behavior defined as aggressive must be aimed at another human being with the goal of inflicting physical harm, and it must bear a reasonable expectation that the attempt to inflict bodily harm will be successful (6).

Aggressive behavior can be classified according to the primary reinforcement sought via the act. The first aggressive behavior type is hostile aggression and its goal is to inflict injury or psychological harm on someone else (1,16). Hostile aggression is mostly observed in contact than in non-contact sports. Contact sports may attract people who are already aggressive or engaging in contact sports which promote aggression. A second type of aggressive behavior is instrumental aggression (8). The purpose of instrumental aggression is to achieve a goal such as money, medal, or praise, and refers to aggressive actions intended to harm another person, with the goal of achieving a result other than the other people's suffering (1,15). A final form of behavior with relevance to aggression in sport is assertiveness. Assertive behavior is described as a behavior which has the goal of dominating an opponent, being very competitive, without any intent to injure, with increased physical behavior that include the use of legitimate verbal or physical force and strategy to reach a goal. Assertiveness is not an act of aggression, because there is no intent to harm the opponent (5,14).

Most of the research conducted in the area of aggression emphasize that athletes frequently exhibit more aggressive behavior than non-athletes outside sport. On the other hand, some studies suggested that athletes easily control aggressive behavior, and demonstrate less aggressive behavior (11). To obtain more explanatory results about aggressive behavior, it is necessary to examine other factors affecting the individual's behavior. One of the most important factors in understanding the nature of aggressive behavior is an individual's anxiety level. The basic aim of research on anxiety in sport is in general to understand and explain the reasons of anxiety and stress (7). In this context, changes in the individual's behavior were found to be connected with characteristics of situation within the individual or the pressure of the situation on the individual.

Anxiety has two forms: state and trait anxiety. Trait anxiety is directly related to the personality of the individual and is part of the individual's pattern of behaviors. It reflects the existence of stable individual differences in the tendency to respond with state anxiety in the anticipation of threatening situations (13). Trait anxiety is not directly observed within the individual's behaviors, but may be determined through the intensity and frequency of state anxiety reactions in different time and conditions (12). The results of studies reveal that individuals with high trait anxiety will perceive more situations as threatening (17). The present study has focused to explain the effects of an individual's trait anxiety levels on aggressive behaviour, and determine the role of athletic participation.

MATERIAL AND METHODS

Participants: Participants were 282 students, including 141 soccer players (aged 21.7 ± 4.3 yrs) and 141 non-athletes (aged 21.7 ± 1.7 yrs) ranging between 17 to 33 years of age. The soccer players were selected from either the city or state level, in terms of their skill standards.

Measures: The questionnaire used in this study included two sections: the trait anxiety inventory and the aggression inventory. Trait anxiety was measured using the Spielberger and colleagues' Trait Anxiety Inventory (1970). The scale reliability and validity of the Turkish version was completed by Öner and Le Compte (12). The scale includes 20 items. Responses to each item are on a scale ranging from 1 (not at all) to 4 (very much). Alpha coefficients for the scale ranged from 0.83 to 0.87. Test re-test reliability coefficients ranged from 0.71 to 0.86. Aggression was assessed using Kiper's Aggression Inventory (9). This inventory is a 30-item self-report measure with three subscales of 10 items each. The three subscales include hostile aggression, passive aggression and assertiveness. Using a 7-point Likert scale, respondents indicated the degree to which they engaged in the above mentioned dimensions (from not at all to very much so).

Procedure: The questionnaires assessing psychological constructs were administered to both soccer players and non-athletes during the 2001-2002 season. Soccer players and non-athletic participants were tested individually or in groups. Participants filled in a consent form, provided demographic information (age, experience, etc.), then completed the Trait Anxiety Inventory and the Aggression Inventory. No names were attached to questionnaires and confidentiality was assured.

Data analysis: Means and standard deviations were first calculated according to aggression dimensions. Next, data were analyzed with a 2 (athletic participation) x 3 (trait anxiety) ANOVA to test the independent and interactive effects of athletic participation and anxiety level on aggression dimensions. The athletic participant variable was separated as soccer players and non-athletes, while trait anxiety variable was classified as low anxiety, moderate anxiety and high anxiety.

RESULTS

Means and standard deviations of anxiety levels and athletic participation, according to aggression dimensions, are reported in Table 1. ANOVA results related to the effects of athletic participation and trait anxiety levels on aggression dimensions are given in Table 2.

Table 1. Descriptive statistics for aggression dimensions, anxiety level and athletic participation.

Variable	Low anxiety			Moderate anxiety			High anxiety			Total			
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	
Hostile aggression													
Athletic Participation	Soccer players	26	32.1	11.7	31	28.4	13.5	84	30.2	11.6	141	30.2	12.0
	Non-athletes	22	40.1	10.4	23	41.0	11.1	96	34.7	9.4	141	36.6	10.2
	Total	48	35.8	11.7	54	33.8	13.8	180	32.6	10.7	282	33.4	11.6
Assertiveness													
Athletic Participation	Soccer players	26	28.8	21.1	31	36.1	20.6	84	26.8	16.3	141	29.2	18.5
	Non-athletes	22	8.5	6.5	23	14.2	8.3	96	20.6	11.0	141	17.7	11.0
	Total	48	19.5	19.0	54	26.7	19.7	180	23.5	14.0	282	23.5	16.2
Passive aggression													
Athletic Participation	Soccer players	26	31.3	12.8	31	27.8	15.5	84	31.4	11.6	141	30.6	12.8
	Non-athletes	22	44.1	8.0	23	41.7	9.1	96	35.6	9.9	141	37.9	10.1
	Total	48	37.2	12.6	54	33.7	14.8	180	33.7	10.9	282	34.3	12.1

This study revealed that both athletes and non-athletes had generally high anxiety levels. There was a significant difference between non-athletes and soccer players on general anxiety scores ($t=-2.15$). Result indicated that non-athletes had higher anxiety levels than soccer players. There was a significantly difference between non-athletes and soccer players for all aggression dimensions (Hostile aggression: $t=-4.81$, $p<0.001$; Passive aggression: $t=-5.34$, $p<0.001$ and Assertiveness: $t=6.38$,

$p < 0.001$). According to these findings, non-athletes had higher scores than soccer players for hostile aggression and passive aggression sub-scales. In contrast, non-athletes had lower scores than soccer players for assertiveness sub-scales.

Table 2. ANOVA results related to the effects of athletic participation and trait anxiety levels on aggression dimensions.

Variable	F	df	p
Hostile aggression			
Athletic participation	28.7	1	<0.001
Anxiety level	2.49	2	ns
Athletic participation x Anxiety level	2.99	2	<0.05
Assertiveness			
Athletic participation	59.6	1	<0.001
Anxiety level	2.86	2	ns
Athletic participation x Anxiety level	8.38	2	<0.001
Passive aggression			
Athletic participation	41.3	1	<0.001
Anxiety level	2.62	2	ns
Athletic participation x Anxiety level	5.44	2	<0.005

Univariate F-tests were used to determine the effect of trait anxiety level and athletic participation on aggressive tendencies. In order to examine aggressive behavior dimensions between athletic participation and trait anxiety levels, a 2 (athletic participation) x 3 (trait anxiety) analysis of variance using aggression inventory scores was conducted. Overall models are statistically significant (Hostile aggression: $F=6.87$, $p < 0.001$; Passive aggression: $F=9.11$, $p < 0.001$ and Assertiveness: $F=13.2$, $p < 0.001$). There was a significant main effect for athletic participation (Hostile aggression: $F=28.7$, $p < 0.001$; Passive aggression: $F=41.3$, $p < 0.001$ and Assertiveness: $F=59.6$, $p < 0.001$) but not for trait anxiety levels (Hostile aggression: $F=2.49$, $p > 0.05$; Passive aggression: $F=2.62$, $p > 0.05$ and Assertiveness: $F=2.86$, $p > 0.05$). The interactions between athletic participation and trait anxiety levels were significant for all aggression dimensions (Hostile aggression: $F=2.99$, $p < 0.05$; Passive aggression: $F=5.44$, $p < 0.005$ and Assertiveness: $F=8.38$, $p < 0.001$).

DISCUSSION

The results of univariate-F tests revealed a significant main effect for athletic participation. The result of our research is consistent with

that obtained by Koruç and Bayar (10) who also had indicated that athletes exhibited more aggressive tendencies than non-athletes. In contrast, Nixon (11) had found that there were no significant differences between athletes and non-athletes in terms of probability of exhibiting aggressive behavior outside sport. As was expected, this study has indicated that the athletes demonstrated a more assertive behavior. Assertive behaviors are forceful and directed behaviors which are not intended to injure the victim (8). With respect to sport settings, it appears that all sports include assertive behavior. Particularly, in sports defined as contact sports such as soccer, it is possible that such acts are acceptable. Athletes participating in contact sports generally perceive aggressive behavior as more legitimate. Although assertive behavior does not involve aggressive intent, an individual may be acting assertively and yet an unintended injury may occur to her or his opponent (4). The intent of the actor cannot be inferred from the action alone.

In this study, the interaction effect between variables was significant for all aggression dimensions. This result revealed that athletic participation and anxiety levels are factors effecting aggression dimensions. Based on the present findings, we could say that there is a great effect of athletic participation and anxiety level on aggression.

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